d.) Remarks.

Claim 16 has been amended solely for clarification purposes, support for which can be found throughout the specification. No new claims have been added. Claims 1-30 remain pending.

Remarks Regarding 35 U.S.C. § 103(a)

A. Claims 1-15 and 22-28 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Schafer (Berichte der Bunsen-Gesellschaft, 1983) in view of van der Weide (SPIE, 1999 or NATO Science Series, II, 2001). This ground of rejection is respectfully traversed, for the following reasons.

With respect to claim 1 and its dependant claims, independent claim 1 recites the following:

> "Claim 1. A spectroscopic method comprising:
> energizing a solid-state oscillator to generate a submillimeter wave and to sweep a predetermined frequency band;
> introducing the submillimeter wave during the sweep into a sample cell that contains a fluid;
> electrically generating frequency markers sequentially during the sweep;
> reading during the sweep outputs of a solid-state detector disposed in the sample cell; and detecting an absorption of the fluid;
> recording the read outputs of the solid-state detector as a function of time and recording the frequency markers as a function of time; and
> converting the recorded outputs of the solid-state detector into a function of frequency using the recorded frequency markers.
> (emphasis added by Applicant)"

Schafer, on the other hand, discloses imputing the frequency markers and detector video signals into a signal averager for data acquisition, see the first paragraph on page 330 under section d). Additionally, Schafer discloses calculating and storing the frequency of a line position from a positive and negative sweep after the same absorption line has been averaged with inverted sweep polarity, see the paragraph bridging pages 331-332. Therefore, Applicant respectfully asserts that in Schafer, the outputs and frequency markers are not recorded as a function of time, as required by claim 1 of the instant application, but rather are

averaged. Schafer also does not disclose or suggest converting the recorded outputs into a function of frequency using the frequency markers; instead Schafer again uses averages.

Furthermore, independent claim 1 requires "a solid-state oscillator." The Examiner contends that van der Weide teaches such an apparatus. However, van der Weide teaches using pulse generators (e.g. see Fig. 1). Applicant respectfully asserts that pulse generators produce intermittent signals of a specified strength for a specified period of time at specified intervals. Oscillators, on the other hand, produce a continuous signal at a specific frequency. While, van der Weide uses two pulse generators to replicate a harmonic wave, the outputted wave, as can be seen in Fig. 1, does not have all the properties of a true harmonic wave. Therefore, the two pulse generators are not equivalent to the solid-state oscillator required by claim 1.

Therefore, neither Schafer, van der Weide, nor the combination of the two disclose or suggest all of the elements required in independent claim 1. For at least all of these reasons, Applicant respectfully requests that this rejection be withdrawn.

With respect to claim 22 and its dependant claims, claim 22 requires "a solid-state exciter." As described above with respect to claim 1, neither Schafer, van der Weide, nor the combination of the two disclose or suggest a solid-state exciter. To reiterate, van der Weide teaches using pulse generators. Applicant respectfully asserts that pulse generators produce intermittent signals of a specified strength for a specified period of time at specified intervals. While, van der Weide uses two pulse generators to replicate a harmonic wave, the outputted wave, as can be seen in Fig. 1, does not have all the properties of a true harmonic wave. Therefore, the two pulse generators are not equivalent to the solid-state exciter required by claim 22. For at least all of these reasons, Applicant respectfully requests that this rejection be withdrawn.

B. Claims 16-19 and 29-30 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Schafer in view of van der Weide as applied to claims 1-15 and 22-28, and further in view of Stumpf (US 4,998,433). Applicant also respectfully traverses this ground of rejection.

The arguments above regarding Schafer and van der Weide are herein incorporated and render this rejection invalid. To reiterate in part, van der Weide only teaches the use of pulse generators. Applicant respectfully asserts that pulse generators produce intermittent

signals of a specified strength for a specified period of time at specified intervals. Oscillators, on the other hand, produce a continuous signal at a specific frequency. While, van der Weide uses two pulse generators to replicate a harmonic wave, the outputted wave, as can be seen in Fig. 1, does not have all the properties of a true harmonic wave. Therefore, the two pulse generators are not equivalent to nor do they suggest the solid-state oscillator.

Additionally, independent claim 16, amended solely for clarification purposes, requires "reducing pressure of the trap to evacuate a remainder of the fluid that is not condensed," as well as, "drawing the evaporated chemical species into a sample cell." In Stumpf, on the other hand, once the sample is collected and cooled, it is reheated without evacuating the fluid that has not condensed. See col. 6, lines 31-39. Additionally, Stumpf uses low pressure merely to draw the sample into the apparatus. See col. 6, lines 15-22. Furthermore, the sample is mixed with a carrier gas to force it into the analytical apparatus. See col. 6, lines 39-43. Therefore, Applicant respectfully asserts that instead of separating out the chemical species to be analyzed, as claimed in the present application, Stumpf actually teaches further diluting the chemical species before analysis. This teaches against Applicant's claimed invention, which is the strongest evidence of nonobviousness.

For at least these reasons, Applicant requests that this rejection be withdrawn.

C. Claims 20-21 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Schafer in view of van der Weide as applied to claims 1-15 and 22-28, and further in view of Cocatre-Zilgien (US 6,012,675). Applicant also respectfully traverses this ground of rejection.

The argument above regarding Schafer and van der Weide are herein incorporated and render this rejection invalid. To reiterate in part, van der Weide only teaches the use of pulse generators. Applicant respectfully asserts that pulse generators produce intermittent signals of a specified strength for a specified period of time at specified intervals. Oscillators, on the other hand, produce a continuous signal at a specific frequency. While, van der Weide uses two pulse generators to replicate a harmonic wave, the outputted wave, as can be seen in Fig. 1, does not have all the properties of a true harmonic wave. Therefore, the two pulse generators are not equivalent to nor do they suggest the solid-state oscillator.

Independent claim 20 of the present application requires recording absorption spectrum of a first and second location with respective GPS coordinates. The Examiner

contends that "[t]he Cocatre-Zilgien reference clearly shows that there are advantages to using a global position device to log locations when one is taking samples at a number of locations." However, the only mention of GPS in the Cocatre-Zilgien reference is that "the humidity data gathered by the system of the present invention can be integrated in a computerized Flight Management System .... with the geographical coordinates from a Global Positioning System, so as to generate for the pilot a form of real-time map of actual and probable updrafts." See col. 15, lines 51-59. Therefore, Cocatre-Zilgien is not using GPS to log locations, as the Examiner contends. Rather, Cocatre-Zilgien is actually using the GPS only to show the pilot his current position. As such, Applicant respectfully asserts that Cocatre-Zilgien does not teach or suggest any form of recording GPS locations along with absorption spectrum.

Furthermore, the GPS recordation in claim 20 is completed during surveying, where precise measurements of location are needed. In Cocatre-Zilgien, on the other hand, Applicant respectfully asserts that the GPS is used to determine the location of an airplane, and therefore, only a general determination of location is necessary

For at least these reasons, Applicant requests that this rejection be withdrawn.

Conclusion

In view of the foregoing amendments and/or remarks, favorable reconsideration of the application and issuance of a Notice of Allowance is respectfully requested.

If there are any issues remaining which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the number below.

Applicant submits herewith via credit card the fee in the amount of $225.00 to cover two months' extension of time fee for a small entity. The Commissioner is hereby authorized to charge Deposit Account No. 14-1437 for any additional fees deemed necessary, referencing Attorney Docket No. 8107.002.US; and Applicant hereby petitions for any needed extension of time not otherwise accounted for with this submission.

Respectfully submitted,
Novak Druce & Quigg LLP

Date: March 10, 2008

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